Crop Storage Institute

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NEWS RELEASE
CUSTOM HARVESTERS FAST FILLING TOWER SILOS
RATES EXCEEDING 100 TONS/HR

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For Immediate Release

At a time when many consider the filling rates of the tower silo to be incapable of keeping pace with a custom harvester, some custom harvesters are turning heads. Tower silos all across the dairy lands are being filled at rates exceeding 100-tons/hr.

While the specifications on forage blowers report capacities of 180-tons/hour for corn silage and 110-tons/hr for haylage, these numbers have not been widely publicized or thought to be achievable.

Earl Ray Shirk of Groffsdale Custom Harvesting reports consistently filling 20-foot x 80- foot towers in five hours. In Shirk's operation, they run a 175-horsepower tractor connected to a blower with a 60-inch fan at 540 rpm. Shirk says, "It's fairly impressive to watch, and we never run into a problem with plugging the (blower) pipe."

Given the lower storage losses and better feed quality, many consider the tower silo the most economical system to store feed. This comes as a word of encouragement to those dairy producers who may be struggling to get a custom harvester to work with their tower silos. In the past, many dairies have gone to bunker storage because of what was thought to be a slow down at the filling process.

Larger herds beginning to use tower silos provide interesting test cases. Jeremy Zirbel, who works with a 30-foot by 128-foot tower, says, "We're empting 8 to 9-ton wagons in under two minutes. While we have not used a custom harvester yet, I have no doubt that the blower could handle it."

John Gazley, a member of the International Silo Association Board of Directors, says, "With the practical application of some of these filling speeds, the tower silo becomes even more viable in the feed storage market place. Applying the University of Wisconsin's Bunker Density Calculator, it becomes evident that getting proper compaction in a bunker silo at these rates is extremely difficult."

The University of Wisconsin's bunker density calculator suggests that using a 10-foot maximum height of silage, 65% moisture, and a 6-inch layer thickness as inputs, a 30,000 pound tractor can properly pack only 50 tons/hour. The spreadsheet recommends a bunker density of at least 14-pounds of dry matter/cubic foot. At this density the 6-month dry matter losses reach approximately 17%.

Dr. Brian Holmes of the University of Wisconsin says, “We have been trying to get people to understand that limitation (filling speeds of bunkers) for about a year or so now. You may find that you have to increase packing tractor weight and add more tractors … if the producer wants to get a reasonable job of packing done.”